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SPRINGFIELD-SANGAMON COUNTY REGIONAL PLANNING COMMISSION

TrendLines

SSCRPC — Advising, Planning, Evaluating, Leading

On The Inside:

THE LEAD: High Speed Rail

The proposal to develop a St. Louis to Chicago high-speed intercity passenger rail-line running through Springfield and Sangamon County is a somewhat controversial one in the SSCRPC planning area. This is not due to the project's goal — to allow for passenger trains that would travel up to 110 mph, reducing travel time from St. Louis to Chicago to somewhat less than 4 hours — which has general community support, but because of the path selected to run through Springfield: the current 3rd Street rail corridor. For this reason we are dedicating an expanded issue of *TrendLines* to summarize some issues related to the high-speed rail (HSR) project.

While Illinois has sought improvements along the St. Louis to Chicago rail corridor for over a decade, this remained little more than a dream until April of this year. At that time President Obama presented his vision for HSR, which included the development of high-speed passenger lines in at least 10 regions of the country. The Midwest is one of the regions, and Chicago was selected as the Midwest regional hub.

To advance his agenda, the President allocated $8 billion of American Recovery and Reinvestment Act (ARRA) funding to the Federal Railroad Administration (FRA) for the project. In addition, the President called for an additional $1 billion per year for the next five years to be spent to advance the HSR program.

The FRA established four funding categories, or "Tracks", for project submission. Illinois, through the Illinois Department of Transportation (IDOT), opted to submit under "Track 2", which is for the implementation of new high-speed rail corridors, new intercity passenger rail services, or substantial upgrades to existing corridor services.

Since the Joliet to Chicago segment of the proposed project corridor is already double-tracked, the project calls for the establishment of a second mainline track between Joliet and St. Louis. This would result in a double-track from St. Louis to Chicago that could be used for both additional passenger and freight traffic.

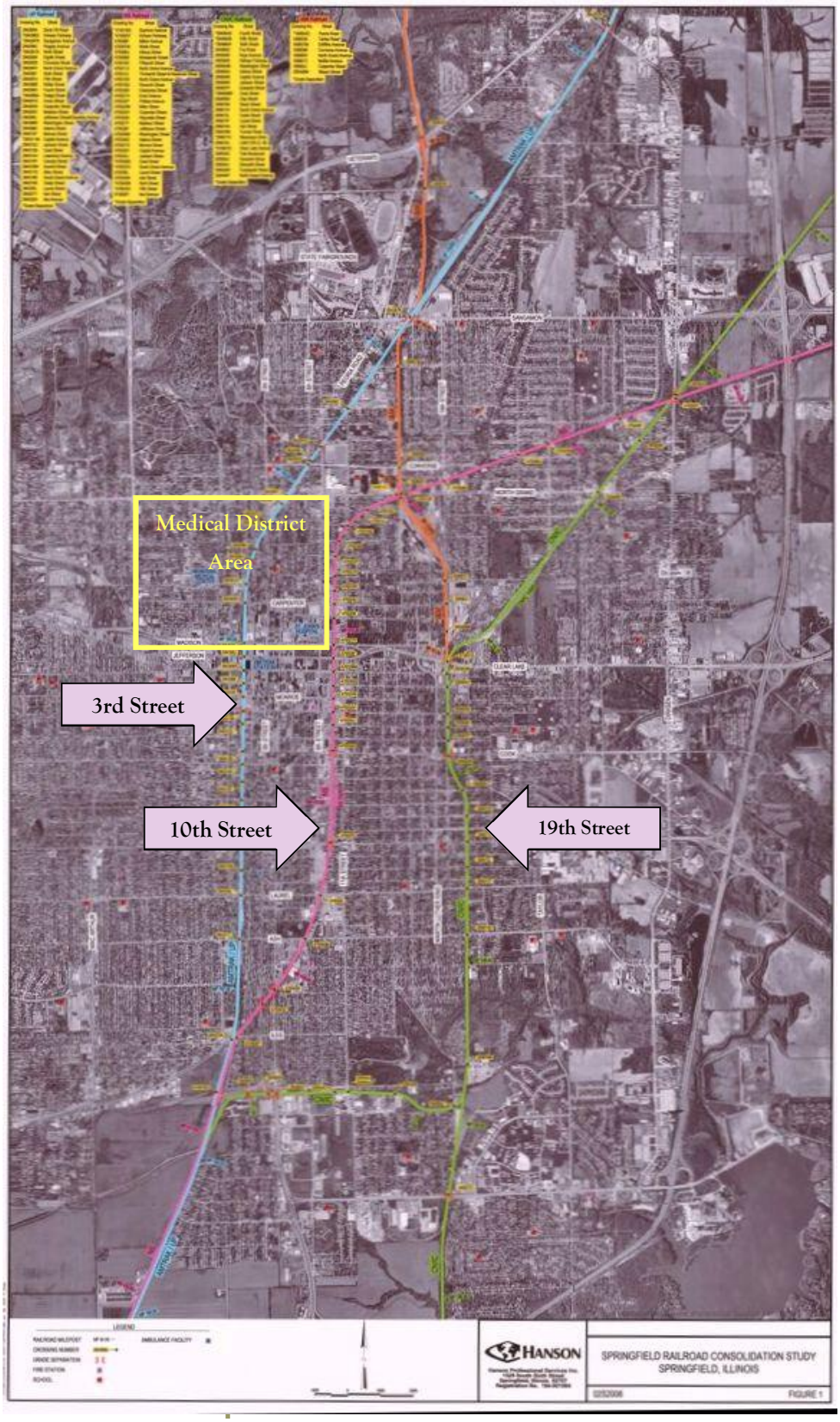
THE SECOND STORY: The Springfield Connection.

Unlike many communities of its size, Springfield is currently faced with three rail corridors that run more-or-less north-to-south through the city-center. These are often called the *19th Street corridor* (which is the furthest east and primarily operated by Canadian National RR), the *10th Street corridor* (Norfolk-Southern RR), and the *3rd Street corridor* (Union Pacific RR).

As the names of the corridors suggest, they are not far from one another and run through some of the older parts of the city. Because of their proximity and the barriers to traffic and development that they create, Springfield has considered rail-line relocation and consolidation many times in the past. Most recently consolidation was considered as part of a 2005 feasibility study conducted for the city. That study concluded that the three Springfield corridors should be consolidated onto one existing corridor: the 10th Street corridor.

SSC RPC Springfield-Sangamon County Regional Planning Commission

LAY OF THE LAND: Three Springfield Rail Corridors



The map to the left shows the three rail corridors that run north-to-south through Springfield. The 3rd Street corridor lies furthest west, while the 19th Street corridor is furthest east, and 10th Street lies more-or-less between the other two.

As mentioned previously, the feasibility of either relocating the lines outside of the city-center (e.g., the 1970 Capital City Railroad Relocation Authority plan) or consolidating the three corridors on to one existing route (e.g., the 2005 City of Springfield study), has been considered dating back at least to the 1920's. However, in reviewing the various plans that came to the attention of the SSCRPC, all agreed on one outcome: that the 3rd Street rail-line be abandoned.

There are a number of reasons for this consistent recommendation. Structurally, for example, the 3rd Street corridor has the largest number of at-grade crossings, lacks the grade separations found on other corridors, and has more at-grade crossings closer together. In addition its tracks lie on a rather narrow corridor that is less amenable to possible traffic mitigation (over- or under-passes) due to the shorter blocks in the area.

While all three corridors run through residential areas, the 3rd Street corridor runs through a rather dense one that is near a number of community facilities and fragile structures. The 3rd Street corridor also bisects the city's Mid-Illinois Medical District.

THE IDOT PREFERRED ROUTE: 3rd Street Corridor

Even though there were known issues associated with Springfield's 3rd Street corridor, IDOT selected this segment as its preferred route through Springfield. As noted previously, the 3rd Street rail corridor is owned by Union Pacific (UP) railroad and currently hosts Springfield's Amtrak passenger service.

It is relevant that the 3rd Street corridor is a UP line, as IDOT entered into a memorandum of understanding (MOU) with UP in May 2009 for what was then called the Midwest High Speed Rail Initiative. Among other things, the MOU calls for the investment in additional capital improvements required to "Operate 16 High Speed passenger trains (8 each way) plus a pair of Texas Eagle trains", and to also "Accommodate UP's existing and planned freight trains, including those to/from the Joliet facility, protecting projected freight growth."

The Joliet facility mentioned in the MOU is a new intermodal facility being developed for UP in that area. The MOU, then, contemplated additional growth of freight traffic associated with the double tracking from St. Louis to Chicago that would come in addition to the passenger traffic. This was traffic not considered in IDOT's 2003 EIS.

The Environmental Impact Statement (EIS)

As IDOT's brochure, *Illinois High-Speed Intercity Passenger Rail*, explains, an environmental study process is required for HSR projects as the applications for FRA funding fall under the National Environmental Policy Act (NEPA).

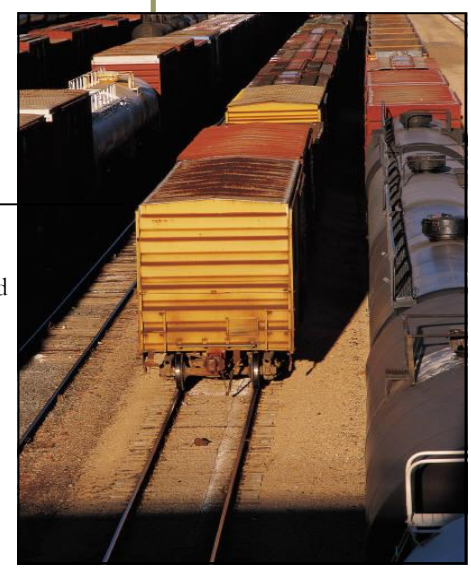
In January 2003, IDOT completed an Environmental Impact Statement (EIS) for the Chicago to St. Louis corridor. However, in the opinion of many critics this EIS studied the environmental impact of a project that was different from the one contemplated in 2009 and submitted to the FRA.

The differences arise for two primary reasons. First, the 2003 EIS did not address a two-track corridor, but only a corridor with one track. This difference was important enough for IDOT to comment in its HSR brochure that the "dual mainline tracks are also expected to avoid the operating conflicts for inter-city passenger services resulting from the increased rail freight traffic anticipated to serve new intermodal freight facilities currently being constructed", and the second track would allow "two trains to utilize the corridor at the same time."

This increase in train traffic capacity was different from that studied in 2003 and caused concern as it related to the use of the 3rd Street corridor.

What was also different in 2009 from what was presented in 2003, was that the improvement in the corridor would be beneficial to and increase freight train use, particularly in relationship to the new UP intermodal facility being developed near Joliet.

The possibility of additional train traffic, particularly freight traffic, was considered problematic for the 3rd Street corridor. Because of this, the SSCRPC began to study planning issues associated with it.



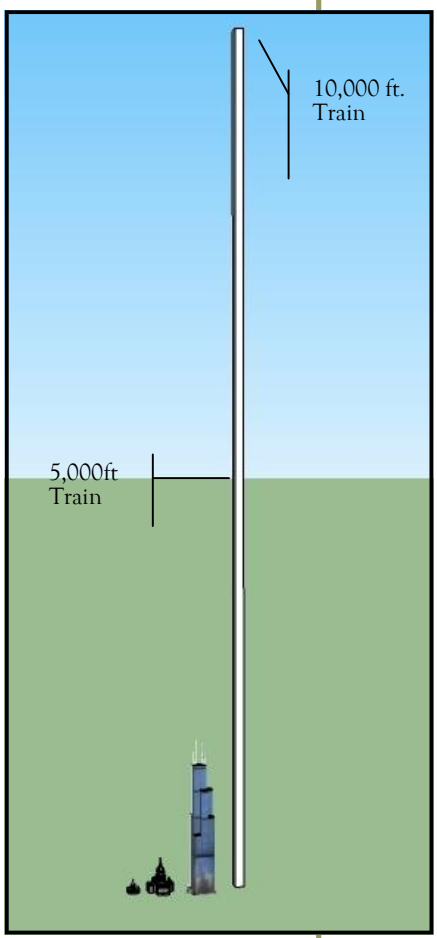
Initial Planning Issues

The implications of the 3rd Street corridor being the preferred route for HSR was first brought to the SSCRPC's attention during a meeting of a group considering transportation issues for the Sangamon County regional comprehensive plan. It also had implications for the area's Long Range Transportation Plan, which was under development at the time.

At the request of the planning group, the SSCRPC staff began to consider planning issues associated with use of the 3rd Street corridor. This analysis was provided to the public on the Commission's website, www.sscrpc.com., and is briefly considered here.

TRANSPORTATION IMPLICATIONS: Roadways

Among the immediate concerns related to use of the 3rd Street rail corridor was the effect that additional rail use would have on vehicular traffic due to train caused delays. However, to assess traffic impact the SSCRPC needed to establish a baseline for both train numbers and length.



Comparison of train lengths to Springfield's Old State Capitol (on left), State Capitol, and Sears Tower.

The number of trains anticipated was drawn from the current number of trips on the line, plus the number of HSR trips addressed in the MOU between IDOT and UP, plus the number of anticipated additional freight trains. Ultimately the SSCRPC chose 40 and 60 train trips per day for its base planning scenarios. Train length was generated based upon 75 and 100 car trains with an average car length of 60 ft. This, then, assumed train lengths of between 4,500 and 6,000 ft., exclusive of the locomotive. A more complete explanation of how the scenarios were developed can be found in the SSCRPC paper *Counting Trains,* which is available on the Commission's website along with the other papers noted in this *TrendLines*.

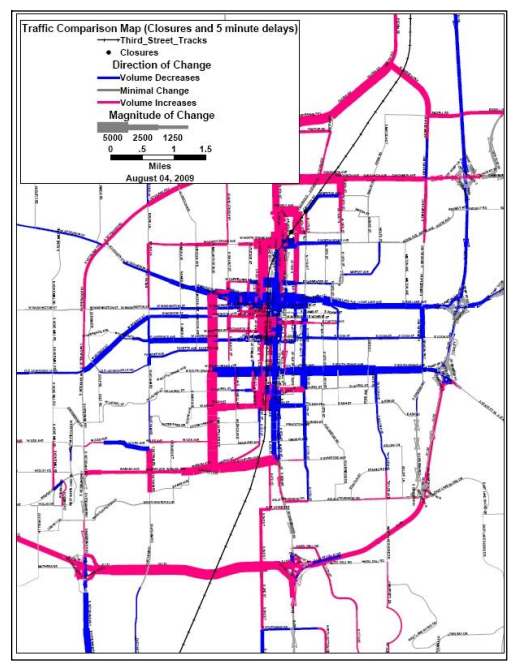
The SSCRPC was subsequently informed that it may be underestimating train length, with trains of 7,000 ft being common and railroads experimenting with freight trains of 10,000 ft to 12,000 ft. The drawing to the left shows a comparison of train length to Springfield's Old State Capitol, State Capitol, and the Sears Tower.

Using these train number and length scenarios, the Commission then estimated a train "delay factor" that could be input into its Sangamon County Travel Demand Model. The Commission arrived at a 5-min. per train delay factor by timing trains operating on Springfield's 10th Street corridor (as they currently move at 40 mph, the speed at which trains are expected to move through the city on an improved 3rd Street line), and then timing how long it took for traffic to "unstack" following the passage of a train on the 3rd Street line. This is addressed more fully in the SSCRPC's paper *Preliminary Report of Impacts on Travel Associated with Increased Freight Traffic on the 3rd Street Rail Corridor.*

Applying a 5-min per hour delay factor, which would be representative of 24 additional train trips per day, the results from the Travel Demand Model indicated that:

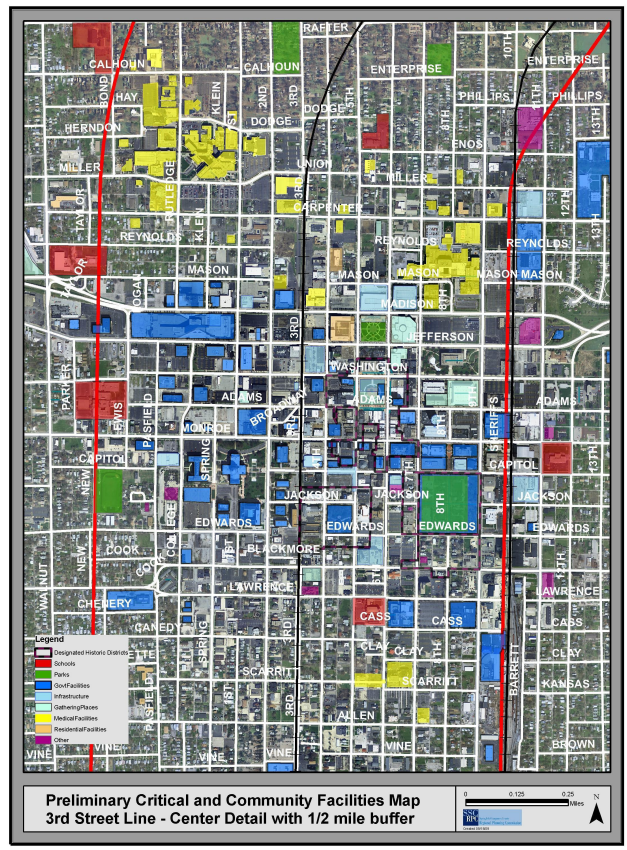
- Delays caused by additional rail traffic on the 3rd Street corridor result in systemic changes, affecting roadways throughout the area.
- The magnitude of these changes appears to increase only marginally with additional delay: a 5-min. per hour avg. delay (24 additional trains per day) is sufficient to trigger a significant change in road traffic behavior.
- The delay causes a shift in traffic away from the city-center and toward its outskirts, putting additional demand on parts of the road network already carrying large volumes of traffic.
- The shifting of traffic away from the Springfield city-center creates the potential for a decline in economic and social activity in this area and possibly others.

The map below shows increases and decreases in traffic volume from a 5-min. per hour delay faction on the corridor.



TRANSPORTATION: Pedestrian & Other

As the map to the right showing just one portion of the 3rd Street corridor indicates, the corridor is unique in regard to the large number of community and neighborhood facilities adjacent to it as well as the narrowness of its right-of-way.



The SSCRPC's review of critical and community facilities along the line found that within 1/2 mile of the corridor there are:

- 42 medical facilities;
- 76 governmental facilities;
- 17 infrastructure facilities;
- 10 schools and educational facilities;
- 8 residential housing facilities (such as senior high-rises);
- 9 community gathering places;
- 10 parks; and
- 7 other related facilities.

The existence of these sorts of uses is not unanticipated given the residential nature of the corridor and the fact that it runs through an older, historic, part of the city. Because of this, expanded use of the corridor is likely to create additional problems for pedestrians and bicyclists.

Additional use of the corridor might also be problematic for the disabled, particularly if additional pedestrian-way closures would be required, or if portions of the corridor would be otherwise blocked-off or barriers created. Under these conditions wheelchair access, for example, may no longer be available.

This is particularly troubling given the proximity of the corridor to senior high-rises and the Near North Village, where many disabled individuals reside.

TRANSPORTATION: Multi-Modal Capabilities

One of the critical transportation needs identified by both the city and public transit officials is the development of a multi-modal transportation facility that would bring together bus, train and other transportation services.

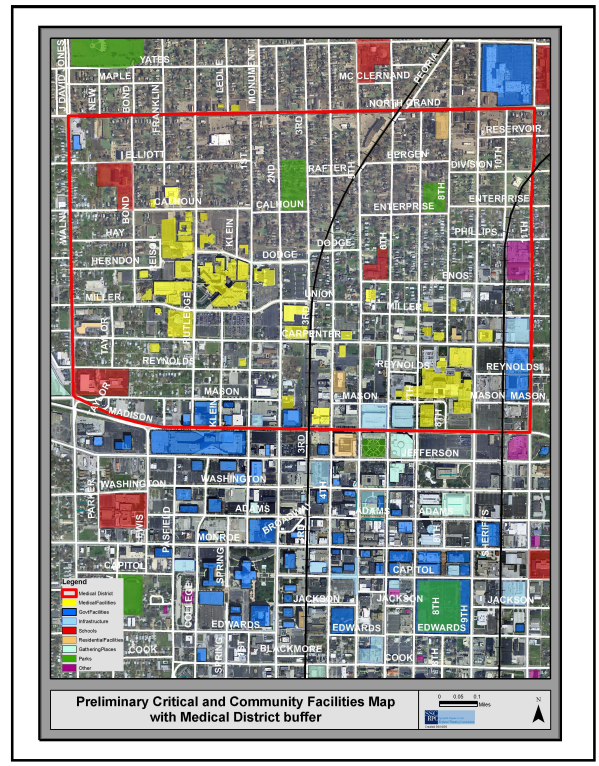
However, if such a facility were developed on or about the existing Amtrak station on the 3rd Street corridor, there would be significant complications for both bus and passenger traffic. This is largely because the blocks in and around the station have one-way, heavily travelled streets to the north, south and east, while the rail-line itself creates a barrier to the west. It is also because freight trains operate on no fixed schedule.

The end result is a location with limited bus and passenger ingress/egress, and a scheduling problem for bus traffic from the site as the schedule could not be built around established train schedules.

This, along with other factors, limits the possibility of transit oriented development (TOD) adjacent to the site.

PUBLIC HEALTH & SAFETY: Medical District

Some issues related to transportation associated with use of the 3rd Street corridor (such as pedestrian safety and access for those with disabilities) also affect public health and safety. Yet since the 3rd Street line runs through the center of the Mid-Illinois Medical District, additional planning challenges arise.



As the map to the right shows, the 3rd Street rail corridor cuts through Springfield's Medical District, dividing it nearly in half. As noted in the discussion of transportation issues, additional rail use will add delays and increase congestion on local streets, including those in the Medical District. Since the District includes two major hospitals, the SIU School of Medicine and numerous smaller medical facilities, additional delays and congestion will have a day-to-day impact on the movement of both patients and physicians who must visit or work in the District. However, a larger patient care problem arises due to anticipated problems accessing emergency care.

Currently the two hospitals located in the District (St. John's and Memorial hospitals) provide the only access to a Level I Trauma Center in the region. Delays of any sort in getting patients to the Trauma Center will critically affect patient care. Access to emergency and even regular patient care will be complicated by additional freight use of the corridor, as these trains do not operate on any fixed schedule. This means that an emergency vehicle operator coming to the Trauma Center (which rotates annually between the two hospitals) could not know in advance the best route for quickest access. This may be a particular problem for ambulance services coming in from outside the area as they would be unable to position equipment to mitigate anticipated delays, and may not know alternate routes if they are available.

Patient care may also be affected by the vibration from passing trains as these vibrations are known to affect sensitive diagnostic equipment. While one might think that additional freight traffic will create more vibration than passenger trains, this is not the case. As IDOT's 2003 EIS noted, passenger trains generate more vibration than freight trains as they move at higher speeds. Moreover, passenger trains coming into Springfield from the north and stopping at the current Amtrak station would most likely be breaking to stop as they move through the Medical District. Vibrations increase during train breaking, which would exacerbate the problem in the District.

The vibratory effects of trains and traffic delays can also become barriers to additional medical facility development in the area. The Medical District master plan calls for additional medical facility development, much of it technology and research driven. It is the SSCRPC's current understanding that vibration caused by trains is a significant barrier to the use of sensitive research and other technologies, limiting the possibility of development and redevelopment in the area.

ENVIRONMENTAL IMPLICATIONS: Residential Development

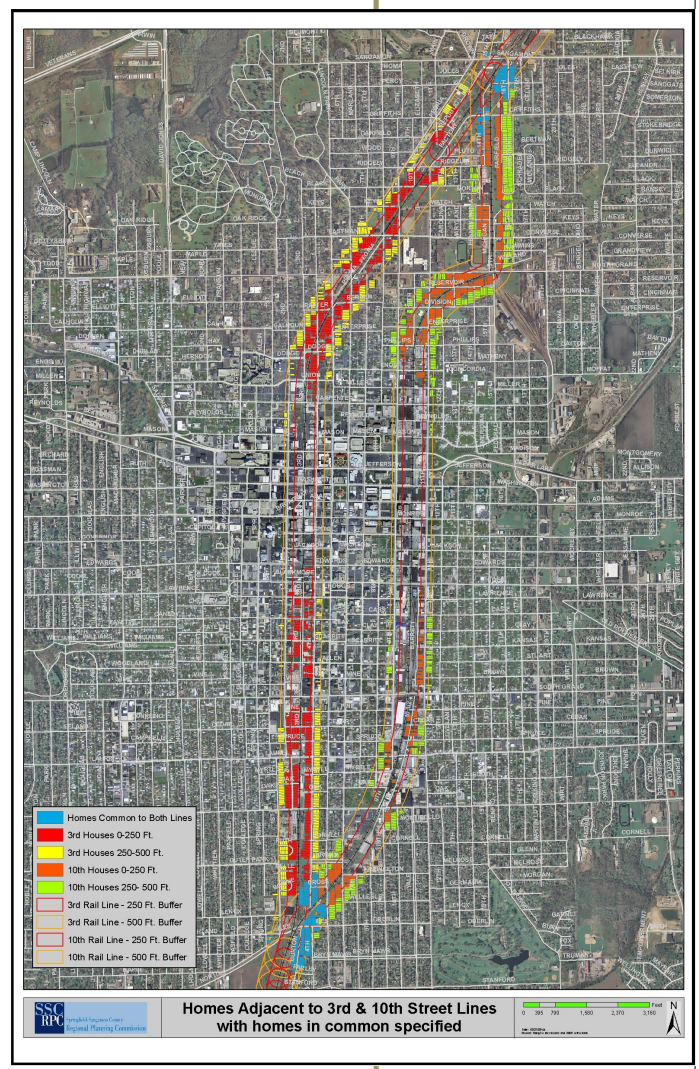
Previously we noted the environmental implications of increased vibration on the Medical District. We also noted that the 3rd Street rail corridor runs through an area dotted with many community and critical facilities, such as the Capitol Complex, and also includes such fragile and historic properties as the Dana-Thomas House. But additional attention needs to be given to the fact that this corridor is proximate to a rather dense residential area that would be affected by increased sound and vibration.

In reviewing the number of residential properties proximate to the 3rd Street corridor, the SSCRPC found that there were 626 residential structures within 250 ft. of the line and 1073 within 500 ft. The SSCRPC selected the 250 ft to 500 ft range as previous studies found that additional freight traffic affected the property values of residential properties within this distance of a rail-line at statistically significant levels.

However the noise and vibration caused by increased train traffic have environmental impacts on residential areas as well as economic ones.

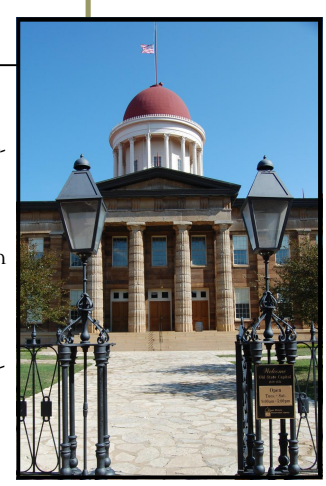
For example, noise screening criteria used in environmental assessments calls for a more detailed noise analysis for any buildings within 110 ft of an HSR corridor or within 500 ft of an at-grade crossing. Additional vibration studies are required for residential buildings within 100 ft of the corridor right-of-way. Clearly additional rail traffic has environmental impacts on residential areas, and Springfield's 3rd St. Corridor is quite a dense one.

In comparison with the 10th Street rail corridor, for example, that corridor has fewer homes within both 250 ft and 500 ft than the 3rd Street line (626 v. 520, or 20.4% more; 1073 v. 975, or 10.5% more), and as the map to the right shows, the largest number of 10th Street residences are located in areas where the 3rd and 10th Street lines come together. Because of the proximity of the two rail corridors, there are residential properties that over-lap both. The SSCRPC found that when homes common to both rail corridors were removed from the calculations, there were 31.9% more residential properties within 250 ft of the 3rd St. corridor than the 10th St. one, and 11.8% more properties within 500 ft.



DEVELOPMENT & REDEVELOPMENT: Downtown Area

We previously noted the effect that additional use of the 3rd Street corridor would have on development and redevelopment of properties within the Medical District and its impact on residential properties proximate to it. We should also note that development and redevelopment of Springfield's downtown are currently restricted by the 3rd Street corridor. This limitation is noted in previous studies, the most recent being the independent American Institute of Architects Regional/ Urban Design Assistance Team (R/UDAT) study. Because of its location and use, this corridor creates a barrier to redevelopment moving west, and creates an additional hurdle for needed additional downtown residential redevelopment. Increasing rail traffic along this corridor will simply exacerbate the already existing redevelopment problem.



Planning today for tomorrow's vital and livable communities.

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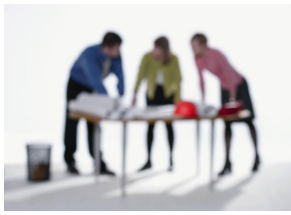
Upcoming Events:

- **The Sangamon County Historic Preservation Commission will meet in Room 212 of the County Building at 4:00PM on the first Wednesday of every month unless otherwise posted.**
- **The Springfield-Sangamon County Regional Planning Commission meets in the Sangamon County Board Chamber at 9:30 AM on the third Wednesday of each month unless otherwise posted.**
- **The Springfield Area Transportation Study Technical Committee meets in Room 212 of the County Building at 8:30 AM on the first Thursday of each month, with the Policy Committee meeting at noon on the following Thursday, unless otherwise posted.**

SSCRPC DOCUMENTS NOTED IN THIS TrendLines, AS WELL AS OTHER ANALYTIC WORK CONCERNING HIGH SPEED RAIL, ARE AVAILABLE ON THE COMMISSION'S WEBSITE.

About the Springfield-Sangamon County Regional Planning Commission



The Springfield-Sangamon County Regional Planning Commission (SSCRPC) is the joint planning body for the City of Springfield and Sangamon County. Along with this on-going responsibility, the Commission works with many other municipalities, public agencies, and public-private entities throughout the region to promote orderly growth and development.

To achieve this end, the SSCRPC conducts numerous research studies, analytic reviews and planning projects each year. It also acts in regional capacities, for example serving as the Metropolitan Planning Organization for transportation planning.

The Commission that oversees this work is made up of 17 members including representatives from the Sangamon County Board, Springfield City Council, special units of government, and six appointed citizens from the city and county. The Commission's Executive Director is appointed by the Executive Board of the Commission and confirmed by the Sangamon County board, serves as County Plats Officer, and also oversees the County's Department of Zoning.

Through the work of its professional staff, the Commission provides overall planning services related to land use, housing, recreation, transportation, economics, environment, and special projects.

The agency prepares area-wide planning documents and assists the county, cities, and villages, as well as special districts, with planning activities. The staff reviews all proposed subdivisions and makes recommendations on all Springfield and County zoning and variance requests. The agency also serves as the Floodplain Administrator, Census coordinator, and local A-95 review clearinghouse.